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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/637,450	08/08/2003	Shizukuni Yata	SAEGU64.001DV1	4085
20995	7590	12/21/2004	EXAMINER	
KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614			CANTELMO, GREGG	
			ART UNIT	PAPER NUMBER
			1745	
DATE MAILED: 12/21/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/637,450	YATA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Gregg Cantelmo	1745	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 December 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 12-26 and 31-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12,13 and 19-26 is/are allowed.
- 6) ☒ Claim(s) 14-18 and 31-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/9/04</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Amendment***

1. In response to the amendment received on December 3, 2004:
  - a. Claims 1-11 and 27-30 have been cancelled. Claims 12-26 and 31-33 are pending;
  - b. The claim objection has been overcome in light of the amendment;
  - c. The 112 rejections have been overcome in light of the amendment;
  - d. The 102 rejections of Alaburda and JP '964 have been withdrawn in light of the cancellation of claim 11 and the amendment to claim 14;
  - e. The rejection of JP '801 stands as modified in light of the amendment to claim 14.

***Information Disclosure Statement***

2. The information disclosure statement filed September 9, 2004 has been placed in the application file and the information referred to therein has been considered as to the merits.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 14, 15 and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '801 in view of U.S. patent No. 5,558,682 (Urairi).

JP '801 discloses a secondary battery comprising a positive electrode 1, negative electrode 4, separator 3 and non-aqueous electrolyte containing lithium salt and having a flat shape (Figs. 1-2 and abstract). The separator is fusion bonded to the electrodes and the separator 3 has passages penetrating the separator in order to provide for ionic transport across the separator between the electrodes (abstract and paragraph [0019] as applied to claims 14 and 15).

The differences between JP '801 and claim 14 are that JP '801 does not teach of the separator including polyethylene (claim 14), wherein the material further comprises a component having a fusing point different from that of polyethylene (claim 31), wherein the component is polypropylene (claim 32) and wherein the polypropylene constitutes a core and the polyethylene constitutes an external layer (claim 33).

Urairi discloses a separator material of a polyolefin fiber sheet having a sheath/core structure with polyethylene as the sheath and polypropylene as the core. The polyethylene sheath functions as a heat-fusible component to provide a separator with higher mechanical strength (col. 2, ll. 48-55 as applied to claims 14 and 31-33).

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The motivation for using the polyolefin fiber sheet having a sheath/core structure with polyethylene as the sheath and polypropylene as the core is that it provides a separator having improved mechanical strength.

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Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of JP '801 by using the polyolefin fiber sheet having a sheath/core structure with polyethylene as the sheath and polypropylene as the core since it would have provided a separator having improved mechanical strength. The selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945) See also *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960). MPEP § 2144.07.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 14, 15 and 31-33 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

6. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '801 in view of Urairi as applied to claims 14 and 15 above and in further view of U.S. patent No. 6,099,986 (Gauthier).

The teachings of claims 14 and 15 with respect to JP '801 in view of Urairi or have been discussed above and are incorporated herein.

The differences between claim 18 and JP '801 are that JP '801 does not teach of the battery thickness, energy capacity and volumetric energy density (claim 16) or of the shape being rectangular (claim 17).

Gauthier discloses a prismatic battery having a thickness of 5.4 mm. The cell has an energy capacity of 36.5 Wh and a peak energy capacity of 87 Wh. Given the

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battery dimensions and energy capacity for such dimensions, the relationship between Wh and the size of the battery of Gauthier provides for volumetric energy densities in excess of 180 Wh/l (col. 4, ll. 17-33, col. 5, ll. 48-61 and col. 9, ll. 47-57 as applied to claims 16 and 17).

The motivation for configuring the battery of JP '801 to the dimensions and constraints of Gauthier is that it provides a battery cell having improved energy capacity and volumetric density for a thin prismatic configuration battery.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of JP '801 by configuring the battery to the dimensions and constraints of Gauthier since it would have provided a battery having improved energy capacity and volumetric density for a thin prismatic configuration battery.

7. Claims 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP '801 in view of Urairi as applied to claims 14 and 15 above, and in further view of U.S. patent No. 5,556,722 (Narukawa).

The teachings of claims 14 and 15 with respect to JP '801 in view of Urairi or have been discussed above and are incorporated herein.

The difference between claim 18 and JP '801 is that JP '801 does not teach of the wall thickness of the battery case being not less than 0.2 mm and not more than 1 mm.

Narukawa discloses a sidewall thickness of 0.5 mm for a prismatic secondary battery (col. 2, line 51).

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The motivation for providing a cell wall thickness in the ranges disclosed in the prior art above is that it provides a cell housing having sufficient mechanical strength without significantly increasing the overall thickness of the entire cell.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of JP '801 by configuring the cell wall thickness to be 0.5 mm as taught by Narukawa since it would have provided a cell housing having sufficient mechanical strength without significantly increasing the overall thickness of the entire cell. Generally, differences in ranges will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such ranges is critical. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969).

***Response to Arguments***

8. Applicant's arguments with respect to claims 16-18 have been considered but are moot in view of the new ground(s) of rejection.

***Allowable Subject Matter***

9. Claims 12, 13, 19-26 are allowed. Reasons for which can be found in the previous office action incorporated herein.

***Conclusion***

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10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is (571) 272-1283. The examiner can normally be reached on Monday to Thursday from 9 a.m. to 6 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. FAXES received after 4 p.m. will not be processed until the following business day. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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Gregg Cantelmo  
Primary Examiner  
Art Unit 1745

gc

A handwritten signature in black ink, appearing to read "Gregg Cantelmo", with a stylized flourish at the end.

December 15, 2004

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